A. C. GODDARD.

WINDOW.

APPLICATION FILED MAR. 4, 1908.

908,856.

Patented Jan. 5, 1909.

2 SHEETS—SHEET 1.

Fig. 1

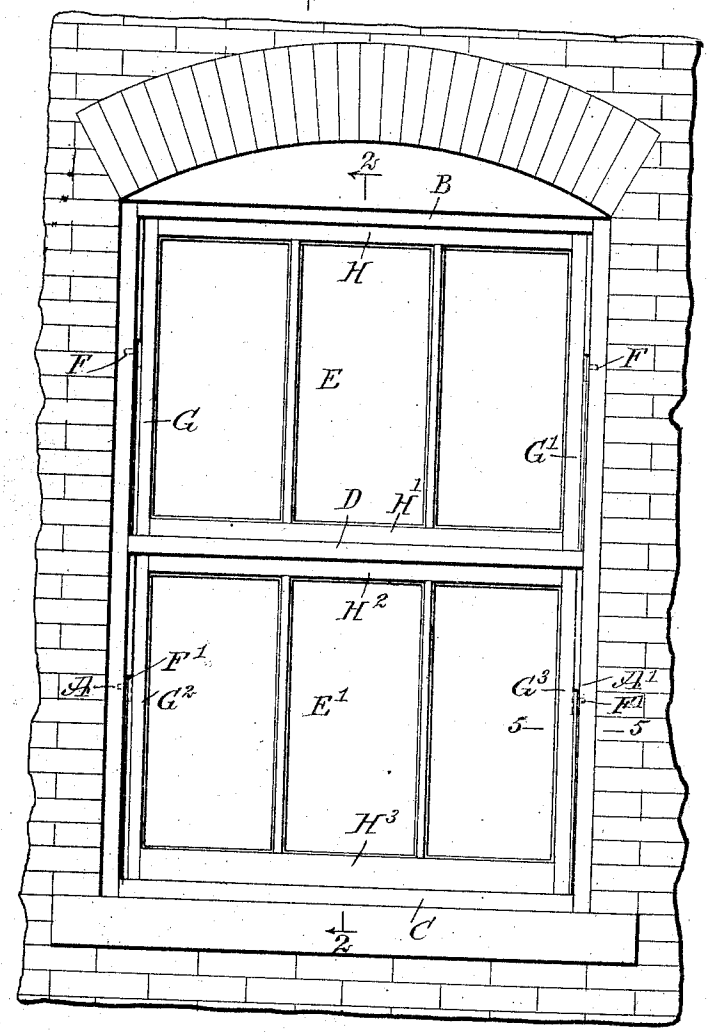


Fig. 8

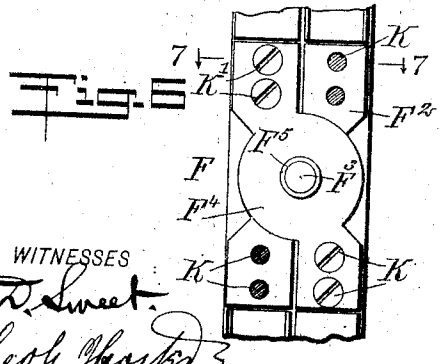
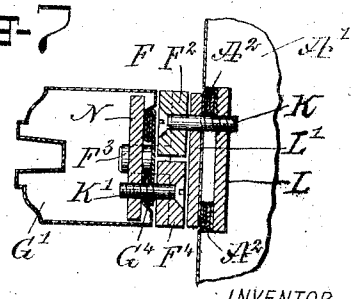


Fig. 7



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 2

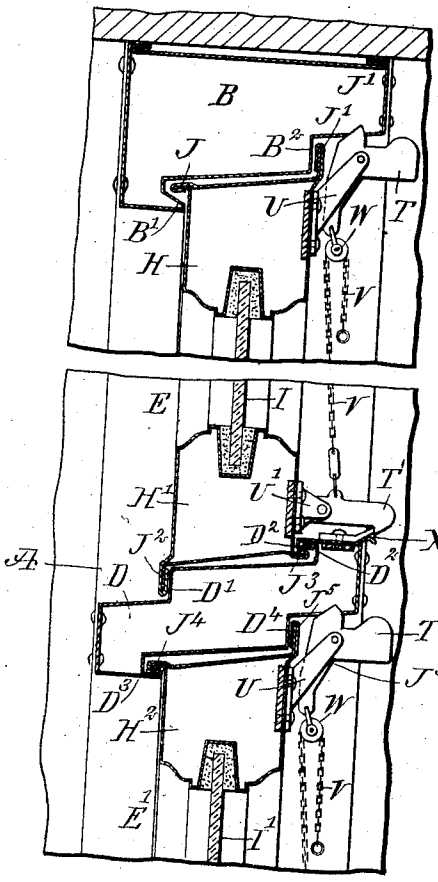


Fig. 3

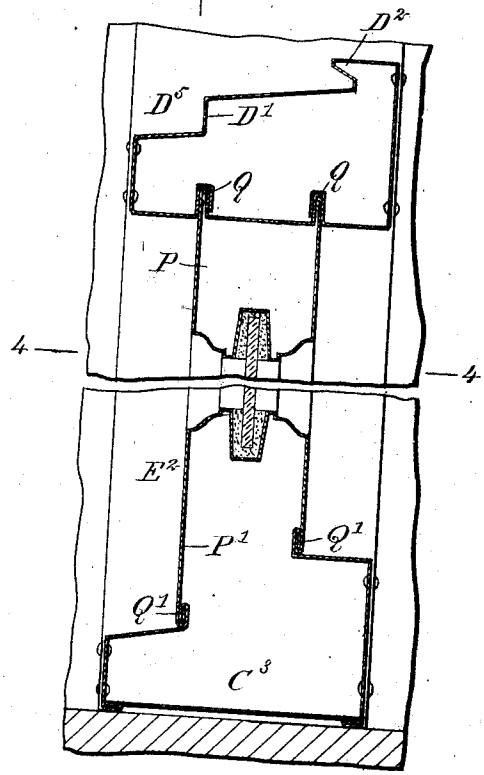


Fig. 4

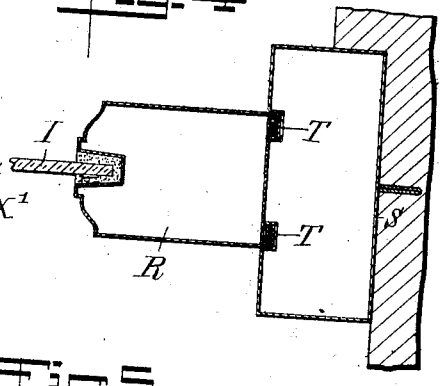
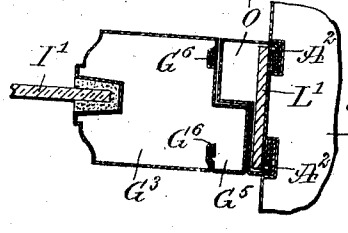


Fig. 5



WITNESSES

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UNITED STATES PATENT OFFICE.

ALVIN CARROLL GODDARD, OF NEW YORK, N. Y., ASSIGNOR TO J. F. BLANCHARD CO., OF NEW YORK, N. Y.

WINDOW.

No. 908,856. Specification of Letters Patent. Patented Jan. 5, 1909.

Application filed March 4, 1908. Serial No. 419,168.

To all whom it may concern:

Be it known that I, ALVIN CARROLL GODDARD, a citizen of the United States, and a resident of the city of New York, Long Island City, borough of Queens, in the county of Queens and State of New York, have invented a new and Improved Window, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved window, having a swinging or a transom sash arranged to insure a tight joint, to render the window dust and moisture proof when closed.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a face view of the improvement as applied to a window having both upper and lower sashes, mounted to swing on horizontal pivots; Fig. 2 is an enlarged transverse section of the same on the line 2—2 of Fig. 1; Fig. 3 is a similar view of a window having an upper transom sash and a lower fixed sash; Fig. 4 is a sectional plan view of the same on the line 4—4 of Fig. 3; Fig. 5 is a sectional plan view of the improvement on the line 5—5 of Fig. 1; Fig. 6 is an enlarged face view of one of the pivotal connections for the transom sash to swing on, and Fig. 7 is a sectional plan view of the same on the line 7—7 of Fig. 6.

The window frame or casing consists of the jambs A, A′ connected with each other at the top by the head B, at the bottom by the sill C and at the middle by the transom bar D, the said parts of the window frame or casing being made of sheet metal bent into hollow or tubular form.

The upper and lower sashes E and E′ have pivotal connections F, F′ with the jambs A, A′ of the window frame or casing, to allow of swinging said sashes into an open or closed position. The upper sash E is provided with the stiles G, G′, the top rail H and the bottom rail H′, and the lower sash E′ is provided with the stiles G^2, G^3 and the top and bottom rails H^2, H^3.

The stiles and rails of the sashes E and E′ are made of sheet metal bent into hollow or tubular form, as plainly indicated in Figs. 2 and 5, and in the said stiles and rails are formed grooves for the reception of the window panes I and I′, secured in place by the employment of putty or like fastening means, as indicated in Fig. 2. The top rail H of the upper sash E is made of two parts united by double seams, which form flanges J, J′, of which the flange J extends outwardly from the outer face of the sash E, while the flange J′ extends upwardly in alinement with the inner face of the sash, the said flange J being adapted to pass into a groove B′ formed on the head B, while the flange J′ is adapted to abut against a shoulder B^2 formed on the said head B. Thus when the sash E is in a closed position an exceedingly tight joint is had between the rail H and the head B. The lower rail H′ is likewise made of two parts, fastened together by seams which form flanges J^2, J^3, of which the flange J^2 extends downwardly and is adapted to abut against the shoulder D′ formed on the transom bar D, and the flange J^3 extends inwardly from the inner face of the sash E, and is adapted to pass into a groove D^2 formed on the transom bar D. The lower sash E′ has its rails H^2, H^3 provided with similar flanges J^4, J^5 and J^6, J^7, of which the flanges J^4, J^7 engage grooves D^3, C^2 formed in the transom bar D and the sill C respectively, while the flanges J^5 and J^6 abut against shoulders D^4, C′ formed on the transom bar D and the sill C, respectively. The transom bar D is preferably formed of two pieces of sheet metal bent to form a hollow or tubular bar, the two pieces being fastened together by double seams which form portions of the grooves D^2, D^3 above mentioned, as shown in Fig. 2. By the arrangement described, the sashes when swung into closed positions render the window moisture and dust proof, owing to the double joints both at the outer and inner faces of the sashes, as above described.

Each of the pivotal connections F and F′

(see Figs. 6 and 7) is formed of a plate F^2, having a pivot pin F^3, and a plate F^4 having a bearing F^5 engaged by the pivot pin F^3. The plate F^2 is fastened by screws K to a reinforcing bar L held on the inside of the corresponding jamb A or A′, the bar abutting against the double seams A^2 connecting the pieces of which each jamb is made, as will be readily understood by reference to Fig. 7. A reinforcing bar L′ abuts against the outside of the seams A^2 and preferably extends throughout the height of the jamb A or A′. The pivot plate F^4 is fastened by screws K′ to a reinforcing bar N held on the inside of the corresponding stiles G, G′, G^2 or G^3, the said reinforcing bar N abutting against the seams G^4 connecting the pieces of which the stiles are made with each other. By the arrangement described, the plates F^2 and F^4 are securely fastened in place to the reinforced portions of the jambs and stiles so as to permit a ready turning or swinging of the sashes whenever it is desired to open or close the same. In order to provide a tight joint at the stiles of the sashes and the jambs A, A′, the latter are provided with stop bars O made of sheet metal bent into tubular form, which receive the reinforcing bar L′, and to interlock with the seams A^2, as plainly indicated in Fig. 5. Each of the stiles G, G′, G^2 and G^3 is provided with a corresponding stop bar G^5 made of sheet metal and interlocked with and forming the inner face of the stile, which is made of two parts interlocked with each other by double seams G^6, as shown in Fig. 5.

In case the upper sash only is a transom sash while the lower sash E^2 is fixed or made permanent, then the following arrangement is made, special reference being had to Figs. 3 and 4. The upper rail P of the sash E^2 is made of a single piece of sheet metal, open at the top and interlocked by seams Q with the bottom of the transom bar D^5, having the shoulder D′ and the groove D^2 for the flanges J^2 and J^3, as previously explained and shown in Fig. 2. The lower rail P′ of the sash E^2 is similarly interlocked by double seams Q′ with the top of the sill C^3, so that the latter and the lower rail P′ form one hollow structure, the same as the transom bar D^5 and the upper rail P. The stiles R of this permanent sash E^2 are made of single pieces of sheet metal and are interlocked with the jambs S by the double seams T formed within the jambs, as plainly indicated in Fig. 4.

From the foregoing it will be seen that the window frames and sashes can be constructed of sheet metal in a very simple and exceedingly durable manner, and the window is rendered completely dust and moisture proof when the transom sashes are closed.

In order to lock the sashes E and E′ in closed positions, locking devices are provided both alike in construction, so that it suffices to describe but one in detail. Upper and lower swing latches T, T′, are mounted to swing on rotatable brackets U, U′, attached to the sashes E and E′, and a chain V is attached to the lower latch T′ and passes over a pulley W journaled on the upper latch T. The upper latch T for the upper sash E is adapted to engage a recess in the head B and the lower latch T′ for this sash E, is adapted to lock onto a keeper X held on the transom bar D, which latter has a recess adapted to be engaged by the upper latch T for the lower sash. The lower latch T′ for the lower sash E′, engages a keeper X′, attached to the window sill C. Now, when the sashes E, E′ are closed and the operator pulls on the free end of the chain V for the lock of either sash, then the catches T, T′ are simultaneously swung into open position and on a further pull on the chain V, the sash E or E′ is swung open.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A window comprising a frame formed of sheet metal bent into tubular form, the jambs of the frame being formed of two pieces interlocked by seams, the jambs of the frame being provided with two tubular sheet metal stops interlocked with the seams thereof, and a sash formed of sheet metal bent into tubular form, the stiles being approximately U-shape and provided with tubular sheet metal stops interlocked with the stiles by seams.

2. A window having a window frame formed of sheet metal bent to form hollow jambs, head and sill, and a sash fixed in the said window frame, the sash having its stiles and rails made of sheet metal bent into tubular form, the stiles being each made of a single piece of sheet metal bent into an approximate U-shape, the sides terminating in flanges, and the said jambs being each made of two pieces of sheet metal interlocked with each other by a double seam, into which fit the said flanges of the stiles.

3. A window having a window frame, a permanent sash fixed in the frame, and a transom sash having its stiles pivoted on the jambs of the window frame, the latter having a transom rail made of one piece of sheet metal and forming a stop for the transom sash and interlocked by internal seams with the upper rail of the said permanent sash.

4. A window having a window frame, a permanent sash fixed in the frame, and a transom sash having its stiles pivoted on the jambs of the window frame, the latter having a transom rail made of one piece of sheet metal and forming a stop for the transom sash, and interlocked by internal seams with the upper rail of the said permanent sash, the lower rail of the permanent sash being

interlocked by internal seams with the sill of the window frame.

5. A window comprising a tubular sheet metal frame having tubular sheet metal stops interlocked with the seams thereof, and a tubular sheet metal sash having tubular sheet metal stops interlocked with the seams of the same and forming the inner face of the stile of the sash.

6. In a window a tubular frame, and a tubular sash having its stiles interlocked with the jambs of the frame by seams within the jambs.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALVIN CARROLL GODDARD.

Witnesses:

THEO. G. HOSTER,

EVERARD B. MARSHALL.